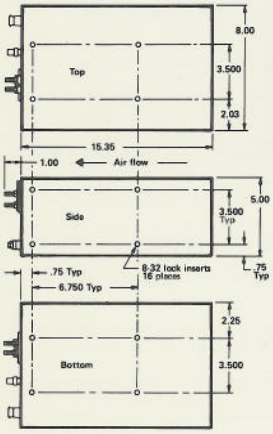
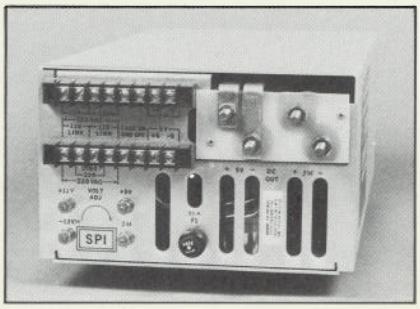
High performance, high reliability DC Power for digital systems.

1000 Watts
HS, up to 160 amps
up to 4 outputs





How to design your HS-System – Type One

Determine the number of DC outputs required;
HSD (Dual) HST (Triple) HSQ (Quad)
Maximum total power is 1000 Watts.

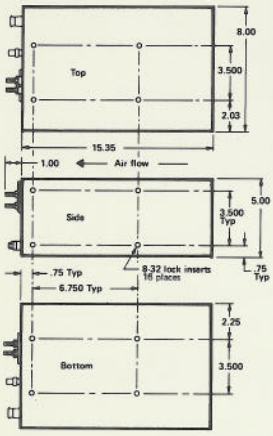
Output no. 1 is designated H
2, 5, 6, 12, 15 or 24 VDC, max. of 160 Amps or 800 Watts.
Output no. 2 is designated M
5, 6, 12, 15 or 24 VDC, max. of 10 Amps or 120 Watts.
Output no. 3 is designated L
5, 6, 12, 20 or 24 VDC, max. of 5 Amps or 75 Watts as a triple, max. of 3 Amps or 36 Watts as part of a quad unit.
Output no. 4 is designated L
5, 6, 12, 15, 20 or 24 VDC, max. of 3 Amps or 36 Watts.

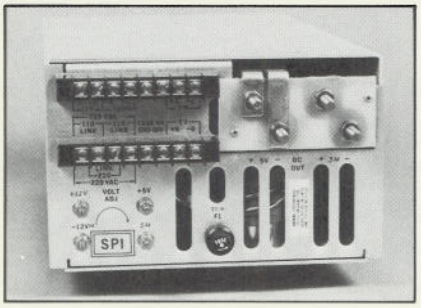
Example: A Quad output system requiring 5 VDC @ 150 Amps, 12 VDC @ 10 Amps, 5 VDC @ 1 Amp and 24 VDC @ 1 Amp would be:

HSQ 5HC 12M 5L 24L B

- HSQ — Quad output
- 5HC — 5VDC output no. 1 with standard OVP
- 12M — 12VDC no. 2 output
- 5L — 5VDC no. 3 output
- 24L — 24VDC no. 4 output
- B — 220VAC input

1000 Watts
HSA, up to 150 amps
up to 4 outputs





How to design your HS-System – Type Two

Determine the number of DC outputs required;
HSD (Dual) HST (Triple) HSQ (Quad)
maximum total power is 1000 Watts.

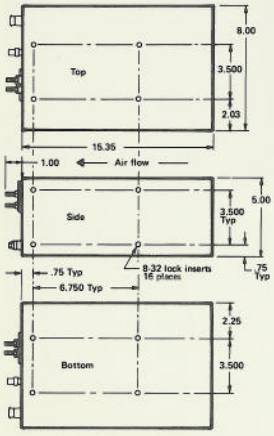
Output no. 1 is designated H
2, 5, 6, 12, 15 or 24 VDC, max. of 150 Amps or 750 Watts.
Output no. 2 is designated HH
2, 5, 6, 12, 15 or 24 VDC, max. of 50 Amps or 250 Watts.
Output no. 3 is designated M
2, 5, 6, 12, 15 or 24 VDC, max. of 5 Amp or 60 Watts.
Output no. 4 is designated M
2, 5, 6, 12, 15 or 24 VDC, max. of 5 Amps or 60 Watts.

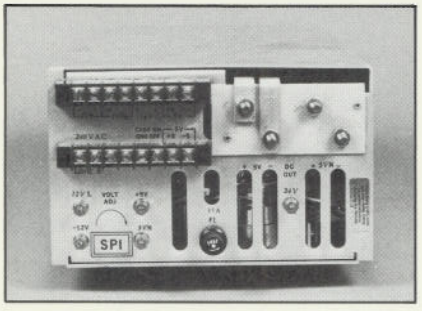
Example: A Triple output system requiring 5 VDC @ 125 Amps, 12 VDC @ 20 Amps and 12 VDC @ 5 Amps would be:

HST 5HC 12HHC 12M U

- HST — Triple output
- 5HC — 5VDC no. 1 output with standard OVP
- 12HHC — 12VDC no. 2 output with standard OVP
- 12M — 12VDC no. 3 output
- U — 110/220VAC input

1000 Watts
HSB, up to 180 amps
up to 4 outputs





How to design your HS-System – Type Three

Determine the number of DC outputs required;
HSD (Dual) HST (Triple) HSQ (Quad)
maximum total power is 1000 Watts.

Output no. 1 is designated H
2, 5, 6, 12, 15 or 24 VDC, max. of 180 Amps or 900 Watts.
Output no. 2 is designated HH
2, 5, 6, 12, 15 or 24 VDC, max. of 15 Amps or 240 Watts.
Output no. 3 is designated M
2, 5, 6, 12, 15 or 24 VDC, max. of 10 Amps or 120 Watts.
Output no. 4 is designated L
2, 5, 6, 12, 15 or 24 VDC, max. of 3 Amps or 72 Watts.

Example: A Quad output system requiring 5 VDC @ @ 110 Amps, 12 VDC @ 15 Amps, 24 VDC @ 5 Amps and 12 VDC @ 3 Amps would be:

HSQ 5HC 12HHC 24M 12L U

- HSQ — Quad output
- 5HC — 5VDC no. 1 output with standard OVP
- 12HHC — 12VDC no. 2 output with standard OVP
- 24M — 24VDC no. 3 output
- 12L — 12VDC no. 4 output
- U — 110/220VAC input

Electrical specifications and features–HS series

HS

AC INPUT

NOMINAL	100/115/208/230 VAC
OPERATING RANGE	90 to 132 VAC or 165 to 256 VAC or 180 to 264 VAC. Input range is Barrier Block changeable.
FREQUENCY	47 to 63 Hz.; single phase.
INRUSH CURRENT	Peak cold start inrush current is limited to 100 amps when operating at 115 VAC and 160 amps when operating at 230 VAC. Duration of peak current is less than 4 msec.
FUSING	All models incorporate ceramic body fuses rated 250V. Fuse is instantaneous type. Replacement ratings are as follows: HS Type 1 – 20A/250V, HS Type 2 – 20A/250V Front Panel 6A Internal V2 Module HS Type 3 – 20A/250V Front Panel 6A Internal V2 Module
TURN ON TIME	Turn on time is less than 200 msec, typical for AC application and less than 200 msec after on-off remote activation.

DC OUTPUT- HS TYPE 1

REGULATION (Main output) V1, V2	±.5% for 10 to 100% load changes. ±.5% for ±15% line changes around nominal 115/230 VAC.
REGULATION (Secondary Regulated) Outputs V2, V3, V4, V5	±.25% for 10 to 100% load changes. ±.25% for ±15% line change around nominal 115/230 VAC.
CROSS REGULATION V2, V3, V4, V5	10% minimum load is required on V1 to maintain regulation on V2, V3, V4, V5 at full load on these outputs.

DC OUTPUT- HS TYPE 2

REGULATION V3, V4	25% minimum load is required on V1 to maintain regulation on V3 and V4 at full load on these outputs. If full load is not required on secondary outputs and a proportioned load is used, the 25% minimum current may be relaxed.

GENERAL FEATURES

RIPPLE (47 Hz. to 100 kHz.)	50 MV peak to peak.
NOISE (100 kHz. to 50 mHz.)	50 MV peak to peak.
RIPPLE & NOISE (47 Hz. to 50 mHz.)	100 MV peak to peak.
TRANSIENT RESPONSE V1, V2 Type 2 and 3	Output maximum excursion of ±5% for 25% load. Step recovery in less than 500 msec.
TRANSIENT RESPONSE V3, V4	±2% for 25% output load step. Recovery in less than 500 msec.
OVERLOAD PROTECTION V1, V2, V3, V4, V5	All outputs are overload protected. V1 main output is set 120 to 160% of rated output. Output fold back to 60% of output load typical.
SHORT CIRCUIT PROTECTION	All outputs are short circuit protected. Current is limited to 60% of maximum rated current.
OVERVOLTAGE PROTECTION V1	Overvoltage is standard for this output and is a voltage clamp set at 20 to 30% above the nominal output voltage. This protective feature gives user protection while avoiding nuisance trips in the field. Automatically resets. Optional shut down is available.
OVERTEMPERATURE PROTECTION	Unit shuts down when temperature exceeds a maximum safe value.
OVERSHOOT (all outputs)	No turn-on or turn-off overshoot.
REVERSE VOLTAGE PROTECTION V1	Protected for reverse voltage up to rated voltage and current.
REMOTE SENSE (V1, V2 outputs)	Remote sense of up to 1.2 volts or 10% of output. Senses for cables or redundant diodes.
REMOTE ON-OFF (all outputs)	Barrier block or internal connector available for remote on-off supply control.
AC LOSS RIDE THROUGH	All outputs will remain in regulation for 20 msec, during removal of input AC when operating at nominal AC input. 30 msec @ 80%, 50 msec @ 60% rating. All measured from nominal input.

ENVIRONMENTAL

OPERATING TEMPERATURE	0° to 50° full output. 0° to 75° with derating 2%/C° above 50° C. Cooling air is required above 50° C, or when using units above specified max. ratings.
STORAGE TEMPERATURE	–20° to +85° C.
TEMPERATURE COEFFICIENT	.02%/°C.
STABILITY V1, V2, V3, V4	.5% for 8 hr. period following an initial 1 hour warm up.
COOLING	Internal fan provides cooling air flow. Air exits terminal end.
HUMIDITY	Up to 95% R.H. non-condensing.
EMI (Type 3)	Internal filters available to FCC, VDE specifications. Please consult factory.
SAFETY (all units) UL, CSA, TUV	UL File E-69760, CSA File LR-50228, TUV Licenses – HS Series Geprueft Nach: DIN IEC 380/ VDE 0806/8.81.
SIZE	5" x 8" x 15.35"
WEIGHT	HS Type 1 – 17 lbs. HS Type 2 – 20 lbs. HS Type 3 – 20 lbs.